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Oldendorf et al.

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[54] ELECTRIC BALANCE FOR CORRECTING MISLOADING THEREOF

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[58] Field of Search 177/25.11, 25.12, 177/25.13, 25.14, 25.15, 25.16, 25.17, 25.19; 141/83

[56] References Cited

U.S. PATENT DOCUMENTS

4,840,239 6/1989 Slagg 177/25.14
5,544,684 8/1996 Robinette, III 177/25.14

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[57] ABSTRACT

In an electronic balance for loading having a balance scale (3) weighing system, display (19), control keyboard (21 to 26) and a digital processing electronic circuitry in which circuitry at least one memory is present for the weighed value shown in the display (19). A first additional key (25) is present in the control keyboard (21 to 26) upon the actuation of the key the weighed value shown in the display (19) and stored in the digital signal processing electronics is decreased and upon the first actuation of the key the weighed value displayed immediately previously is taken in addition into a first additional memory. Furthermore, a second additional key (24) is present in the control keyboard (21 to 26) upon whose actuation the weighed value displayed in the display (19) is taken into a second additional memory. By means of the decreasing key the balance operator can decreased the display from the too large actual value step-by-step to the correct theoretical value. Since the overload is generally only a few numerical steps of the balance display, this is achieved with a few steps. The balance can calculate the percentage overload by storing the balance display prior to the decreasing and during the conclusion of the decreasing and subsequently bring about the same overloading in the known manner for each of the remaining components. This creates the possibility even for simple loading balances without an electronic recipe memory of compensating an inadvertent overloading of a component by means of a overloading of the other components in equal percentage.

1 Claim, 4 Drawing Sheets

